Son Preference and Group Majority/Minority: Comparing Hindus and Muslims in India and Bangladesh

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Abstract

Religious beliefs are an important determinant of son preference in South Asia, and various studies suggest that son preference is lower among Muslims compared to Hindus. While various hypotheses have been posited for the role of a group's minority status on its total fertility preferences, it is not clear to what extent a community's minority/majority status influences a desire for sons over daughters. This paper seeks to answer this by comparing India and Bangladesh, both countries where the two largest religious groups are Hindus and Muslims with a key difference: India is majority-Hindu while Bangladesh is majority-Muslim. Using the Demographic and Health Surveys at comparable time periods in 1999-2007, this study analyzes differences between cohabiting Hindus and Muslims in multiple measures of son preference including ideal fertility preferences, probability of male births conditional on parity and sex composition of previous children, and sex differentials in child health indicators.

Introduction

A preference for male children is known to be a characteristic of a number of countries in Asia. A sex ratio at birth skewed in favor of males is seen as a manifestation of this preference and has been widely studied in South- and South-east Asia. Various authors have indicated that the practice of prenatal sex determination followed by female-specific abortions, more commonly known as sex-selective abortions, is the most frequently used technique to deliberately influence the sex composition and number of children. Additionally, there are other indicators of a preference for male children that are less extreme and relate to overt or covert discriminatory practices that favors sons over daughters. These relate to sex differentials in health and nutritional outcomes, where girls are found to be disadvantaged compared to boys. An underlying parental bias in favor of sons may result in their discrimination against girls in terms of care and well-being. While a number of papers have examined that the underlying source of this preference for sons lies in patrilineal kinship systems, there are fewer studies that have compared religious groups, which have significant differences in terms of fertility preferences and marriage practices. Although various studies suggest that son preference is lower in India among Muslims compared to Hindus, it is not clear whether this is true at all parities and why discrimination against girls in terms of health outcomes is higher for Muslims relative to Hindus.

Amongst followers of the Hindu faith, sons are important for parents since a person's soul can reach heaven only if a son and in his absence a grandson or another male member of the family lights the funeral pyre and sons are also believed to be able to enable the souls of deceased parents to achieve salvation by performing various rites such as distributing alms and food to the poor and to the priests (Arnold et al. 1998). Since traditional Hindu marriages involve the

payment of a dowry by the bride's family to the groom's, daughters are often associated with high economic costs for the parents (Das Gupta et al. 2003). On the other hand, marriages for Muslim couples usually involve the paying of a bride price by the bride's family to the groom's family, and tend to be more consanguineous, thereby lower the disadvantageous status of daughters in Muslim families (Nasir and Kalla 2006). Previous research from India shows that Muslim fertility preferences indicate a lower level of son preference (Bhat and Zavier 2003). Guillot and Allendorf (2010) explore Hindu-Muslim differences in child mortality in India and find that girls in Muslim families are discriminated against less than girls in Hindu families if the girl is the first child or when the family already has sons. On the other hand, if the family already has daughters, girls are discriminated against more in Muslim families than in Hindu families. The authors conclude that while son preference differences can be ruled out in the explanation of Hindu-Muslim mortality differentials, the idea that son preference may be lower among Muslim households needs to be understood better.

Focus of Study

This paper proposes to study whether and to what extent the majority/minority status of a community affects son preference. By comparing India and Bangladesh, this paper can analyze patterns in son preference both within-country as well as across the two countries which present a contrasting religious distribution of the population. In a population of 1.02 billion, the Census of India 2001 recorded the religious composition of Hindus at 80.5% and Muslims at 13.4% (Registrar General of India 2004). By comparison, the Census of Bangladesh 2001 recorded 89.7% Muslims and 9.2% Hindus in a total population of 130 million (Bangladesh Bureau of Statistics 2004). Recent estimates in Bangladesh peg the sex ratio at birth at 104.9, which is

within the range one may see in the absence of influencing interventions (United Nations Population Division 2011). However, male-female child mortality ratios in Bangladesh are suggestive of postnatal gender discrimination, albeit at moderate levels, with a ratio of 103 male deaths per 100 female deaths, well below the 110-125 range which may be expected in the absence of any gender discrimination (Guilmoto 2012). Overall, the decline in fertility over the past two decades in Bangladesh and the normalization of sex ratios at birth indicate that son preference or daughter discrimination is on average not a stark demographic and social phenomenon, especially compared to neighboring India. However, these national indicators may mask differences within groups such as religious communities, which this paper seeks to analyze.

Within the demographic literature, there has been a long-standing interest in understanding the influence of religion on fertility. These may relate to differences between religions groups in underlying socioeconomic characteristics, the particular tenets of a religious group which pass value judgments or prescribe appropriate actions on marriage, contraception and childbearing, as well as the effect of minority group status on a community's integration in society and its impact on fertility preferences (Goldscheider 1971). A number of different explanations have been put forth in the literature to support the hypothesis that the fertility difference between a minority group and the majority can be explained by the minority status independently of socioeconomic and demographic factors (Goldscheider and Uhlenberg 1969; Iyer 2002; Poston, Chang, and Dan 2006; Sahu et al 2012, among others). The desired family size of the members of a minority community may be influenced by uncertainties and concerns related to safety and discrimination (Iyer 2002; Johnson-Hanks 2006), and although the hypothesis is that these may cause minority

group members to adopt pronatalist behaviors, it is also possible that in these circumstances, minority group members adapt the practices and norms of the majority to both attain social mobility and diminish differences with the majority (Lehrer 2004). The association of Islam with higher fertility has been an area of particular interest to scholars, and a number of studies have investigated the factors to which the higher Muslim fertility in South- and Southeast Asia be attributed (Knodel 1999; Morgan et al 2002; Bhat and Zavier 2005). One of the hypotheses is that Islam is more patriarchal than other religions and therefore women's opportunities for education and employment are adversely affected, leading to higher fertility. Morgan et al (2002) study the hypothesis that these factors may also be an explanation for the relatively higher fertility among Muslims in South and Southeast Asia (India, Pakistan, Thailand, Malaysia, and Philippines). While they find that Muslim women generally desire more and have more children, and are less likely to use contraceptive methods (particularly sterilization), they did not find that attitudes and behaviors that supported higher fertility among Muslims were explained by differences in women's autonomy.

Methods

The Demographic and Health Surveys (DHS) are the primary source of data for this study and are available for comparable time periods: India 1998-99 and 2005-06, where the surveys are called the National Health and Family Surveys (NFHS) and conducted along the lines of the DHS, and Bangladesh 1999-2000 and 2004. In order to arrive at a comprehensive analysis of son preference, I use three dependent variables in this analysis. The first two relate to fertility preference, and the third to sex differentials in child health outcomes. Fertility preferences are measured in terms of (1) the ideal number and sex composition of children reported by all

women in the reproductive age group, and (2) actual fertility behaviors: the differential odds of having a boy rather than a girl in the five years preceding the survey. The third dependent variable measures sex differentials in child health in terms of immunization as well as height-for-age.

Ideal Fertility Preference: Women's self-reported preference for an ideal number and sex composition of children, is measured in the DHS by the question, "If you could back in time to the time you did not have any children and choose exactly the number of children to have in your own life, how many would that be?" Women who gave a numerical response to this question were asked a follow-up question: "How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?" The dependent variable related to the sex preference for children is coded as an ordinal categorical variable with three categories: son preference: more sons preferred to daughters, daughter preference: more daughters preferred to sons, and no preference. The third category of no preference is calculated from the number of women who reported no preference for sons or for daughters for their ideal number of children, combined with women who reported an even number of ideal children and then an equal number of sons and daughters. Conceptually therefore we operationalize son preference as women reporting that of their ideal number of children, they prefer a majority of sons. This approach is consistent with previous literature on desired fertility and son preference (Lin 2009; Chung and Das Gupta 2007; Pande and Astone 2007; Bhat and Zavier 2003). The advantage of coding the dependent variable with three categories is that we maximize the information available related to women's preference. Despite the conceptual attractiveness of the ideal fertility variable in the DHS, a limitation of using desired fertility as a dependent variable is

that it is likely to have been affected by ex-post rationalization (Pritchett 1994). If women's current actual family size is greater than their ideal desired level, then they may adjust the average ideal number of children upwards so that their existing children do not appear to be "undesired". Women may also desire to have more children of a particular sex if their previous children of that sex have died, or on the other hand want fewer children of a particular sex if they associate that sex with a greater likelihood of mortality. Women in larger families in general may also be inclined to go either way with their own desired children – perhaps associating children with additional responsibilities and demands on household resources or on the other hand, being more receptive to the idea of a number of children. In order to account for these effects, the analysis includes control variables for the existing number of children, number of deceased sons and daughters and the woman's family size.

Actual Fertility Behavior: In order to study actual fertility behaviors, or revealed fertility preferences as it were, I study the differential odds of a having a boy rather than a girl among women who gave birth in the five years preceding the survey. I compare second- and third-order births conditional on the sex of previous children with first births, i.e. with no previous children, wherein disproportionately higher odds of a male birth that are greater than the biologically expected average of 1.05 would indicate a deliberate effort to influence the sex of the child.

Sex Differentials in Child Health: Beyond fertility preferences, an underlying preference for sons may lead to differential attitudes towards male and female children translating into differential behaviors related to their care and well-being, and consequently manifesting in significant sex differentials in child health and nutrition outcomes. Childhood immunization is an important indicator of childhood health, in particularly as a marker of healthcare utilization. Unlike the case of treatment of common childhood illnesses, there are no home-based substitutes

for vaccines from health service providers. Immunization thus relates to multiple required healthcare visits to a provider during the first year of every child's life. My operational definition of immunization of children is restricted to children above the age of 1 year. Complete immunization is categorized as a dichotomous variable: whether or not the child has received the four key immunizations mandated in government immunization programs in both India and Bangladesh: polio, diphtheria-pertussis-tetanus (DPT), measles, and bacilli Calmette-Guerin (BCG) for tuberculosis. Additionally, I measure sex differentials in height-for-age, where children whose z-score is less than 2 standard deviations from the median of the reference population are considered to be stunted. Height-for-age is an indicator of cumulative nutritional intake and is affected over a period of time by nutrition as well chronic ailments (WHO 1988).

The sample is stratified by the majority/minority group status within the primary sampling unit (PSU) or cluster. The variable is at the level of the survey PSU, where the proportion of the Hindu and Muslim members of the cluster are calculated from the total cluster population. I conduct the analysis in both India and Bangladesh in Hindu majority (Hindus >50% of the PSU population), Muslim majority (Muslims >50% of the PSU population), as well as two additional levels, Hindus/Muslims less than 25% and greater than 75% to understand if any effect gets attenuated as the geographical concentration of the group becomes greater or lower.

Preliminary Results

Results of multivariate logistic regression models for the probability of a male birth are shown in Table 1 below. The key explanatory variables are the number and sex composition of previous children, where behaviors to ensure that a male child be born would be reflected in greater odds

of a male birth. We note that the fertility behaviors of Muslims overall, either in India or Bangladesh and irrespective of their majority/minority status in the community do not reflect son preference. We see evidence for sex selection among Hindus on the other hand, for parity of two when the previous born is female, as well as for parity of three, when the previous two children are female. This is true when Hindus are the majority group in India, a Hindu-majority country overall, and interestingly when they are the minority group in Bangladesh, where they are the minority group overall.

Table 1: Logistic Regression Models Showing the Odds Ratios of A Male Birth in India and Bangladesh for Births in 1999-2005

	India				Bangladesh			
Previous Children	Majority Hindu		Majority Muslim		Majority Hindu		Majority Muslim	
	Hindus	Muslims	Hindus	Muslims	Hindus	Muslims	Hindus	Muslims
One, Girl	1.12 ** (1.03-1.20)	1.11 (0.81-1.52)	0.97 (0.62-1.53)	1.07 (0.88-1.30)	0.52 (0.32-1.32)	1.41 (0.43-4.65)	7.77** (2.01-30.0)	0.92 (0.79-1.07)
Two, Both Girls	1.18 ** (1.05-1.33)	0.93 (0.55-1.56)	1.27 (0.69-2.32)	1.05 (0.76-1.45)	0.34 (0.09-1.22)	1.98 (0.16-24.8)	6.11*** (2.12-17.6)	1.08 (0.86-1.35)
N	42184	2622	1462	7802	292	107	572	10570

Sources: Demographic and Health Survey 2004 for Bangladesh, and National Family and Health Survey 2005-06 for India.
** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.
Note: The reference category for previous children is first births. Results for other categories (previous children: one (boy), two (both boys), two (mixed), and four and more) not shown. The models control for mother's age, family size, parental education, maternal employment, household wealth, urban residence, and account for clustering within households.

Overall, the results clearly show that son preference is not a feature of the Muslim community in either India or Bangladesh. Further, Hindus in India who live in Muslim-majority areas appear to be influenced by the absence of son preference of the majority Muslim community and subscribe to behaviors with greater gender equality. This is not the case however in the Muslim-majority areas of Bangladesh, where son preference among Hindus remains strong and abiding.

The results of the multivariate analysis conducted for India on children born in the five years preceding the survey are presented in Table 1 below. The results confirm a significant nutritional disadvantage for girls in Hindu households when they are second-born after a first-born daughter, and when they are third-born with two existing daughters. These differences are not seen for Muslim children in India. A striking finding is that although Muslim children are worse off than Hindu children on average, sex differentials are only seen among Hindu children. This paper will analyze these differences separately for Bangladesh as well as for a pooled sample of the children for whom anthropometric measures were collected in the two countries.

Table 2: Predicted Probabilities of Stunting based on Multivariate Analysis for Children in India aged 0-4, 2005-06

		Hindus			Muslims		
Parity	**Sex of Previous Children**	**Male**	**Female**	**M-F Diff.**	**Male**	**Female**	**M-F Diff.**
1	-	41.1	40.9	-	44.1	42.9	-
2	Male	47.2	45.6	-	45.1	43.4	-
	Female	**44.6**	**47.6**	*	49.4	48.4	-
3	Two Boys	53.1	48.1	-	55.5	55.5	-
	Two Girls	**50.3**	**56.7**	*	50.1	50.0	-
	Mixed	50.6	46.9	+	**61.7**	**50.7**	**
4+	-	56.2	58.2	-	55.9	55.0	-
All		47.7	48.3	-	51.0	49.2	-

Sources: Demographic and Health Survey 2005-06 for India.
** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.
Note: The results presented here are based on state-fixed effects models that are calculated by parity separately for Hindus and Muslims, and include interaction terms for the sex of the child and sex of previous children. The models control for children's age, family size, parental education, maternal employment, household wealth, urban residence, and account for clustering within households.